

NEWARK BAY STUDY AREA

Additional Sites & Candidate PRPs

Presentation to:

United States Environmental Protection Agency,
Region II

April 28, 2009

ADDITIONAL SITES *PRESENTED 4/28/09 TO USEPA*

Federal Shipbuilding, Kearny

Alpha Metals, Jersey City

White Chemical, Newark

Bayonne Industries-IMTT, Bayonne

Standard Tank Cleaning, Bayonne

Procter & Gamble, Staten Island

Iron Oxide, Elizabeth

Purepac Pharmaceutical, Elizabeth

ADDITIONAL SITES *OVERVIEW MAP*



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FEDERAL SHIPBLDG. - KEARNY SITE



FEDERAL SHIPBLDG. – KEARNY PT. SITE

BACKGROUND

- The former Federal Shipbldg. Site was located on the western bank of the Hackensack River & covered a majority of the Kearny Point area.
- Federal Shipbldg. was involved with the construction & repair of ships from 1918 until 1948.
- In 1949, United States Steel Corp. sold the Site to the U.S. Govt., which operated it until 1964.

FEDERAL SHIPBLDG. – KEARNY PT. SITE

BACKGROUND (CONT'D)

- From 1964 to 1978, Union Minerals & Alloys Corp. used the Site to dismantle ships for scrap metal.
- In 1978, Union Minerals began converting the Site to multi-tenant use, which it continues as today under the name RTC Properties, Inc. (d/b/a River Terminal Development Co.)
- Typical hazardous substances and materials utilized in shipbuilding metalworking processes and at the Site included:
 - Chlorinated Solvents
 - PCBs
 - Asbestos
 - Acids
 - Cresols
 - Phenols
 - Cyanides
 - Mercury
 - Lead
 - Chromium
 - Copper
 - Nickel
 - Tin
 - Zinc

FEDERAL SHIPBLDG. – KEARNY PT. SITE

REGULATORY STATUS

- In 1993, RTC Properties collected soil & groundwater, which contained VOCs, SVOCs, and Metals in excess of NJDEP Clean-up Standards.
- NJDEP commented that “the contamination detected on site has been demonstrated to be from **historical operations** on site and not from current operations.”

FEDERAL SHIPBLDNG. – KEARNY PT. SITE

DISCHARGE ROUTES

- Prior to 1954, when the Kearny Sewage Treatment Plant was constructed, all wastewaters from the Site were discharged, untreated, directly to the Hackensack River.
- Sediment samples collected in the Hackensack River near the Site (South Wet Basin) contained hazardous substances matching those found on-Site and also known, and/or likely, to have been used in Federal Shipbldng's historical operations:
 - Aroclor PCB-1248 up to 3.33 ppm
 - Aroclor PCB-1254 up to 1.2 ppm
 - Iron up to 43,300 ppm
 - Mercury up to 8.4 ppm
 - Zinc up to 641 ppm
 - TPH up to 668 ppm

(BAC000005,BAK000001, BAK000111, BAL000001)

FEDERAL SHIPBLDNG. – KEARNY PT. SITE

CANDIDATE PRPS

- United States Steel Corporation

ALPHA METALS – JERSEY CITY SITE



ALPHA METALS – JERSEY CITY SITE

BACKGROUND

- Approximately 7.5-acre site located a quarter mile east of Newark Bay in Jersey City, NJ.
- Alpha Metals commenced Site operations in 1948 and operations continue today, in a reduced capacity under the name Cookson Electronics Assembly Materials.
- Alpha manufactured solders, soldering products, and soldering chemicals.

(BAA000028, BAA000059, BAC000001, BAC000004, BAP000001, BAP000002)

ALPHA METALS – JERSEY CITY SITE

REGULATORY STATUS

- In 1992, as part of a preconstruction investigation, Alpha collected 4 subsurface soil samples.
- The samples contained low levels of semi-volatiles & base-neutrals, and NJDEP concluded that no further action was necessary.

(BAA000007, BAB000008, BAP000004, BAP000005)

ALPHA METALS – JERSEY CITY SITE

DISCHARGE ROUTES

- From 1948 to 1957, untreated wastewaters from the Site were discharged directly to Newark Bay (via the Hackensack River) through the City of Jersey City combined sewer system.
- Post-1957, untreated wastewaters from the Site were subject to combined sewer overflows to the Hackensack River.
- Historical sampling of facility wastewater discharges detected: Lead, Copper, Cadmium, Mercury & Zinc.
- Sediment samples collected in the Hackensack River near the Site (Jersey City MUA & Fisk St. CSO) contained hazardous substances identical to those identified on-Site: Antimony, Cadmium, Lead, Mercury & Zinc.

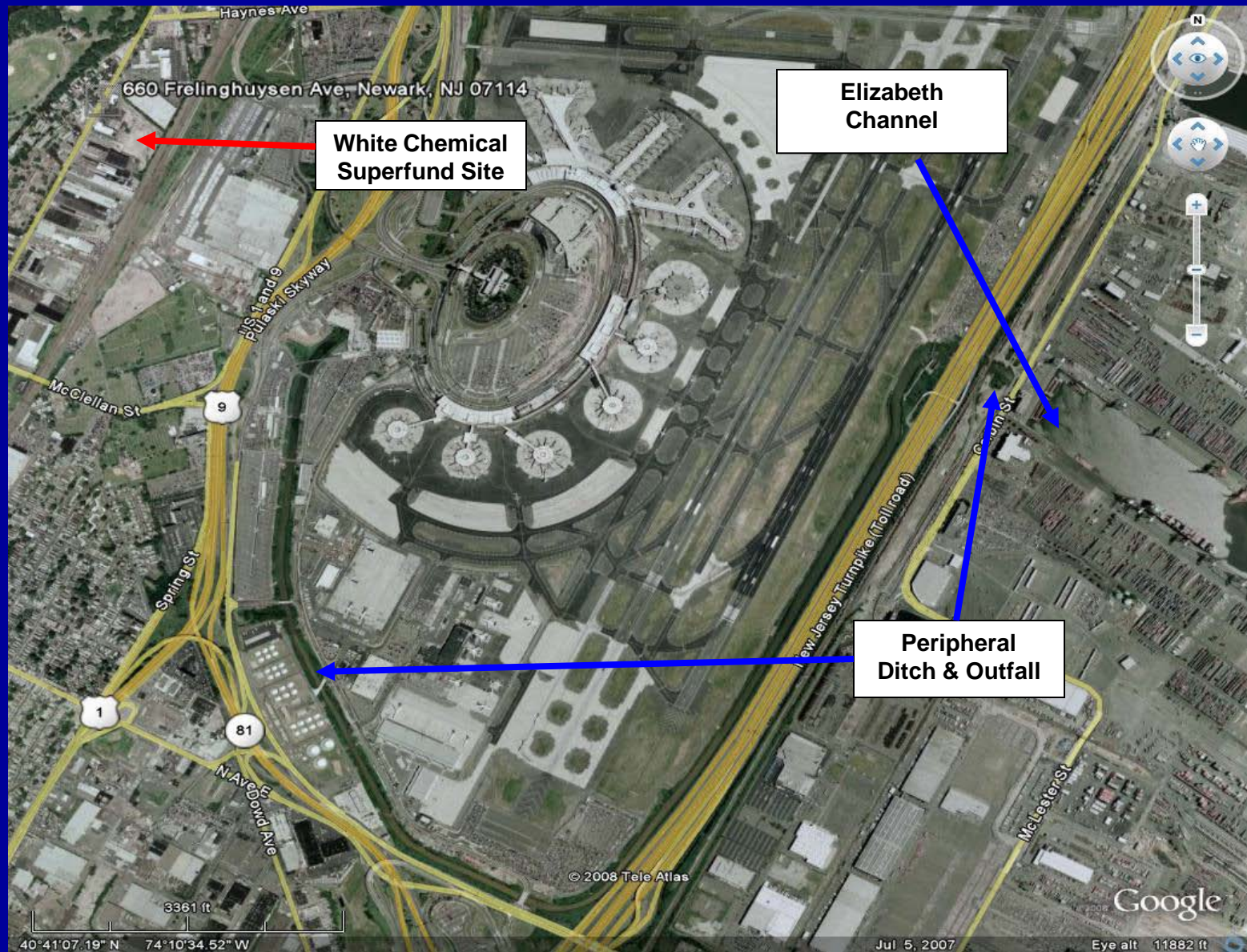
ALPHA METALS – JERSEY CITY SITE

CANDIDATE PRPs

- Fry's Metals Inc.

- BTR, LLC

WHITE CHEMICAL CO. - NEWARK SITE



WHITE CHEMICAL CO. - NEWARK SITE

BACKGROUND

- 1983: WCC moved its operations from Bayonne, NJ to the 4.4-acre Newark site.
- WCC produced a wide range chemicals that can be grouped into 3 primary chemical products: Acid Chlorides, Brominated Organics (aliphatic & aromatic), and Mineral Acids (notably Hydriodic Acid).
- Aromatic brominated compounds produced by WCC included various polybrominated diphenylethers (PBDEs) flame retardants: deca- & octa-bromodiphenyl ethers (DBDEs/OBDEs).
- Precursor chemicals in the manufacture of PBDEs have been known to contain polybrominated biphenyls (PBBs). PBBs are structurally similar to dioxins and PCBs.

(BAA000021, BAB000009, BAF000039)

WHITE CHEMICAL CO. - NEWARK SITE

BACKGROUND (CONT'D)

- October 1989: WCC filed for Chapter 11 bankruptcy; and in August 1990, all production ceased at the Site. The bankruptcy was dismissed in October 1990.
- • 1996: the City of Newark acquired the Site through foreclosure after AZS Corp. (the property owner) failed to pay property taxes.
- • 2000: EPA provided the City a redevelopment grant to identify potential users of the property, once remediation is complete.
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WHITE CHEMICAL CO. - NEWARK SITE

REGULATORY STATUS

- In 1991, the Site was listed on the NPL and a Record of Decision (ROD) issued.
- 1991 ROD for OU-1 (completed 1993) - addressed removal of hazardous chemical drums.
- 2005 ROD for OU-2 (completed 2007) – addressed removal of contaminated soils, buildings and tanks.
- 2008 – Final Remedial Design was issued.
- Pending – ROD for OU-3 – remedy for on/off-Site groundwater contamination.

WHITE CHEMICAL CO. - NEWARK SITE *CONTAMINATION*

Soil & groundwater sampling at the Site identified the following hazardous substances, among others:

- 2,3,7,8-TCDD up to 0.0209 ppb
- Dioxin TEQ up to 2.2059 ppb
- PBBs up to 5,043 ppb
- 2,4-D up to 19.8 ppb (Class I Pesticide)
- Pentachlorophenol up to 110 ppb (Class I Pesticide)
- Lindane up to 9,300 ppb (Class II Pesticide)
- 4,4'-DDD up to 18,000 ppb
- 4,4'-DDE up to 210 ppb
- 4,4'-DDT up to 1,100
- Aroclor PCB-1254 up to 13,000 ppb
- Aroclor PCB-1260 up to 160 ppb
- Mercury up to 104,000 ppb

(BAA000067, BAA000068, BAF000048)

WHITE CHEMICAL CO. - NEWARK SITE

DISCHARGE ROUTES

- The Site is located within the City of Newark's Waverly CSO District, which is subject to wet weather overflows to the Elizabeth Channel, via the Peripheral Ditch.
- Sediment samples collected from the Elizabeth Channel & Newark Bay contained hazardous substances found on-Site & discharged from the Site to the City sewer:
 - 2,3,7,8-TCDD up to 4.23 ppb
 - Total TEQ up to 4,450 ppb
 - 2,4-D up to 420 ppb
 - Lindane up to 10 ppb
 - Aroclor PCB-1254 up to 1,900 ppb
 - Aroclor PCB-1260 up to 733 ppb
 - Mercury up to 19,100 ppb

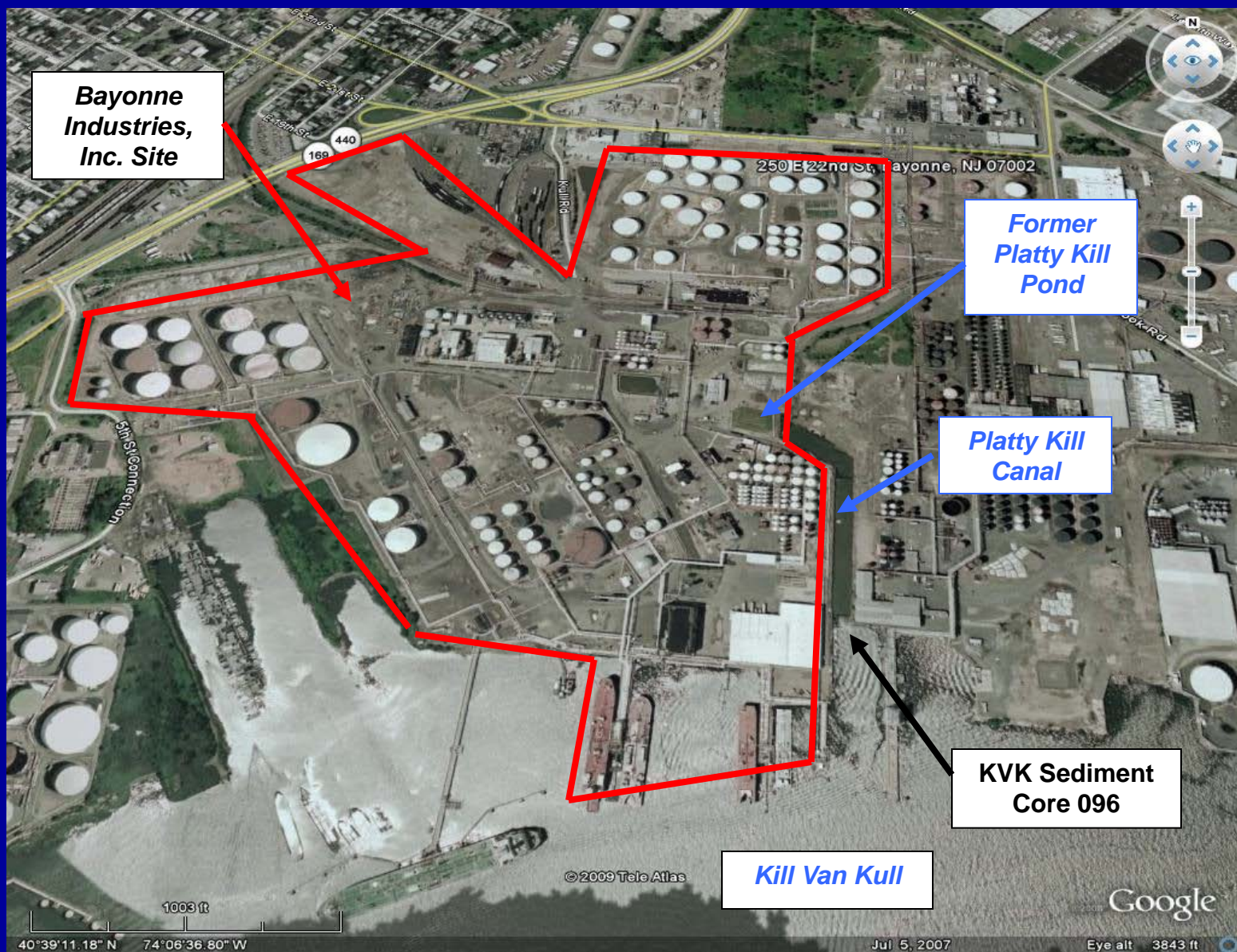
(KLL001202, KLL010515)

WHITE CHEMICAL CO. - NEWARK SITE

CANDIDATE PRPs

- The following PRPs entered into a Consent Decree for response costs under Section 107(a) of CERCLA:
 - Monsanto Company
 - PPG Industries, Inc.
 - Bayer CropScience (successor to Rhone-Poulenc Ag)
 - D&O Chemicals
 - Hummel Croton, Inc.
 - Maybrook, Inc.
 - Hexagon Enterprises, Inc.
 - Inolex Chemical Company

BAYONNE INDUSTRIES/IMTT - NEWARK SITE



250 East 22nd Street, Bayonne, New Jersey

SITE OUTLINE IS AN APPROXIMATION

BAYONNE INDUSTRIES/IMTT - BAYONNE SITE *BACKGROUND*

- Approximately 225-acre site located to the west of the Platty Kill Canal (PKC), with the main waterfront portion located along the Kill Van Kull (KVK) approximately 1.1 mile east of Newark Bay.
- Site was originally developed by Tidewater Oil Company.
- In 1956, the Site was sold to BII. BII also leased portions of the Site to other manufacturing companies.

BAYONNE INDUSTRIES/IMTT - BAYONNE SITE

BACKGROUND (CONT'D)

- In 1983, IMTT- Bayonne began leasing the larger (liquid petroleum terminal) portion of the Site.
- The Site was used by BII and its lessees as a bulk liquid terminal, and for manufacturing chemical products.
- Historical tenants have included, among others:
 - White Chemical Co.
 - Rona Pearl, Inc.
 - Southern California Chemical Co.
 - Kenrich Petrochemicals

(CCG000003)

BAYONNE INDUSTRIES/IMTT - BAYONNE SITE

REGULATORY STATUS

- In 1986, all Site discharges to the Platty Kill Pond (PKP) were discontinued and re-routed to discharge directly to the PKC or KVK. Closure of the PKP also began.
- In 1992, BII entered into a MOA with NJDEP to conduct a remedial investigation at the Site.
- In 1994 & 1996, sediment investigations were conducted in the PKC.
- In 2000, NJDEP notified BII and ExxonMobil that they were **jointly and severally responsible** for contamination in the PKC.
- In 2004, BII conducted a remedial investigation of the on-Site sewers and implemented corrective action plans.

BAYONNE INDUSTRIES/IMTT - BAYONNE SITE CONTAMINATION

Site soil, groundwater, sewers & PKP sediment samples have identified the following contaminants, among others:

- PBB oxides up to 26.5 ppm
- Decabromodiphenyl oxide up to 56,000 ppm
- PBB isomers up to 2.8 ppm
- 2,4,5-Trichlorophenol up to 3.85 ppm (Class I Pesticide)
- Lindane up to 0.086 ppm (Class II Pesticide)
- 2,4-Dinitrophenol up to 9.5 ppm (Class III Organic Chemical)
- Phenol up to 6.1 ppm (Class III Organic Chemical)
- 1,2-Dichlorobenzene up to 6,100 ppm (Dioxin Precursor Chemical)
- 1,4-Dichlorobenzene up to 1,600 ppm (Dioxin Precursor Chemical)
- Chlorobenzene up to 3,900 ppm (Dioxin Precursor Chemical)
- bis(2-Ethylhexyl)phthalate up to 49.6 ppm
- Mercury up to 3 ppm
- TPH up to 230,000 ppm
- VOCs up to 651.7 ppm
- SVOCs up to 2,156.5 ppm

BAYONNE INDUSTRIES/IMTT - BAYONNE SITE

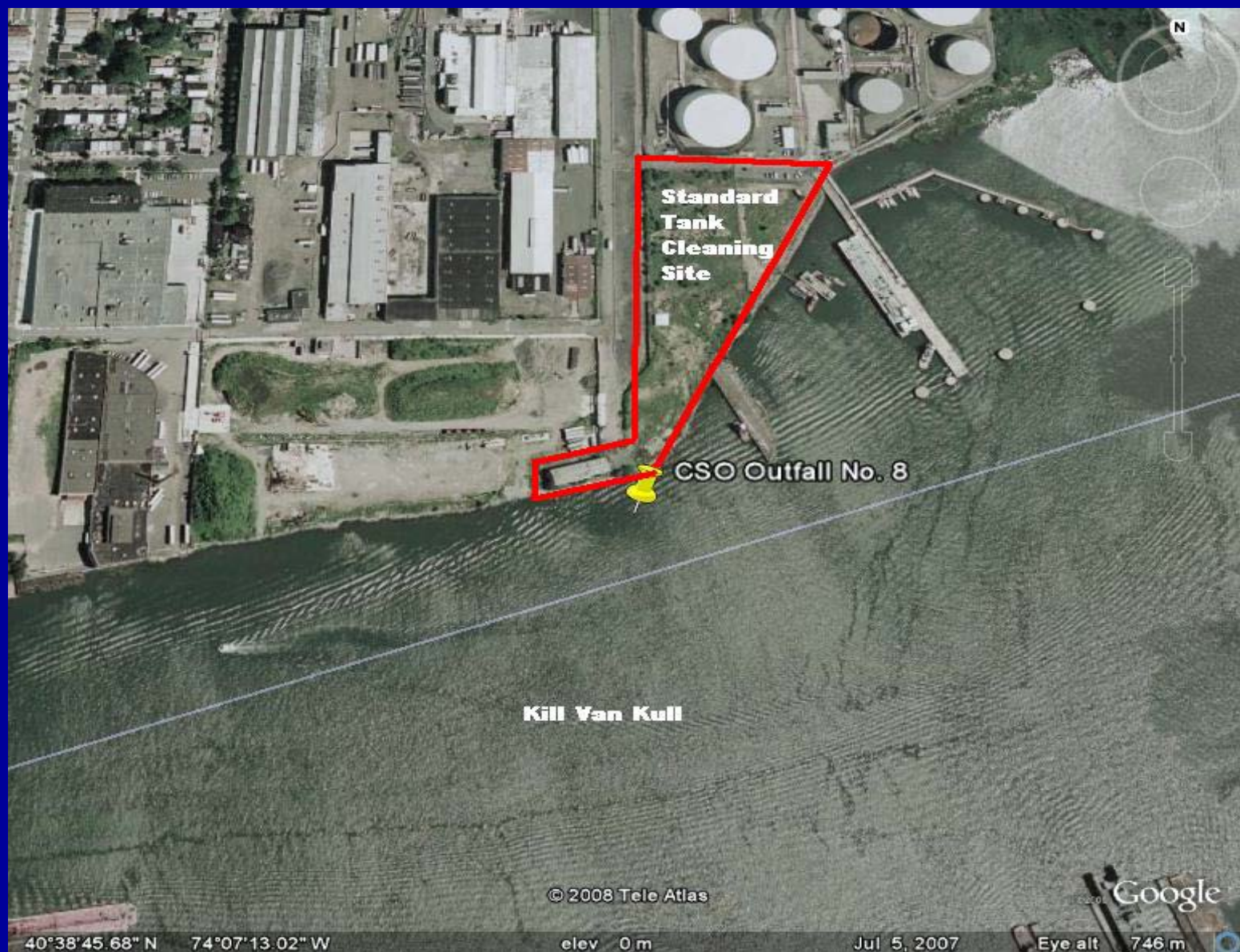
DISCHARGE ROUTES

- The Site is serviced by a combined storm & process sewer system, which discharged to the PKC, via the Platty Kill Pond. An on-Site wastewater treatment plant was not installed until 1978.
- Sediment samples collected in PKC and KVK contained hazardous substances similar to those identified on-Site:
 - 2,3,7,8-TCDD up to 0.956 ppb
 - Total PBB isomers up to 290 ppm
 - Lindane up to 0.086 ppm
 - 1,2-Dichlorobenzene up to 0.32 ppm
 - 1,4-Dichlorobenzene up to 15 ppm
 - Chlorobenzene up to 65 ppm
 - bis(2-Ethylhexyl)phthalate up to 93 ppm
 - Mercury up to 14.1 ppm

BAYONNE INDUSTRIES/IMTT - BAYONNE SITE *CANDIDATE PRPS*

- Bayonne Industries, Inc.
- IMTT Holdings, Inc.
- International Matex Tank Terminals
- International Tank Bayonne, Inc.
- International Tank Terminals, LLC
- ITT-Storage, Inc.
- ITT-Bayonne Storage, Inc.

STANDARD TANK CLEANING - BAYONNE SITE



STANDARD TANK CLEANING - BAYONNE SITE *BACKGROUND*

- The approximately 12-acre Site is bounded to the east and south by the Kill Van Kull.
- STCC & General Marine (a sister co.) began operating at the Site in 1957.
- STCC's operations consisted of barge/tank cleaning, gas freeing, and oil recovery.
- GMTC transported, primarily by barges, sewage sludges & industrial wastes for disposal.

(BAH000003, BAH000119, BBE000003)

STANDARD TANK CLEANING - BAYONNE SITE

BACKGROUND (CONT'D)

- Barges, including those owned by GMTC, were cleaned at the Site with heated salt water pumped from the KVK, in a closed system that continuously cycled the cleaning water after oil/sludge/water separation.
- Wastewater reportedly went through API separation and filtration, prior to discharge to the KVK.
- Angus Tank Cleaning (owned by STCC's owners), also operated out of the Site. Angus used trucks to haul wastes to facilities for treatment or disposal, including STCC.

STANDARD TANK CLEANING - BAYONNE SITE

REGULATORY STATUS

- 1989: NJ State Grand Jury issues a 24-count indictment against STCC, GMTC, et al. for illegal ocean dumping & the dumping of sludges into the KVK and Newark Bay. GMTC & Evelyn Frank pled guilty to two of the counts and were ordered to pay a \$1 million fine.
- 1992: US Justice Dept. filed suit against STCC-related companies for violations of the CWA, CAA, and RCRA.
- 1993: US Grand Jury (Eastern Dist. of NY) issued a 13-count indictment against a number of STCC's owners for illegal ocean dumping & the dumping of sludges into the KVK and Newark Bay.
- 1993: Superior Court of NJ issued Order of Final Judgment against STCC, et al. and ordered payment of \$4 million in penalties for 157 NJPDES effluent violations.
- 1993: STCC was liquidated in US Bankruptcy Court & Site operations ceased.
(BAH000087, BBA000006, BBB000098)

STANDARD TANK CLEANING-BAYONNNE SITE CONTAMINATION

Soil and groundwater sampling at the Site detected some of the following hazardous substances:

- Pentachlorophenol up to 1.64 ppm (Class I Pesticide)
- 1,2,4-Trichlorobenzene up to 0.037 ppm (Class III Organic Chemical)
- 1,2-Dichlorobenzene up to 10 ppm (Dioxin Precursor Chemical)
- 1,4-Dichlorobenzene up to 0.52 ppm (Dioxin Precursor Chemical)
- Chlorobenzene up to 17.1 ppm (Dioxin Precursor Chemical)
- 4,4'-DDD up to 0.51 ppm
- 4,4'-DDT up to 0.029 ppm
- Aroclor PCB-1254 up to 0.5 ppm
- Aroclor PCB-1260 up to 0.69 ppm
- Mercury up to 6.4 ppm

STANDARD TANK CLEANING - BAYONNE SITE

DISCHARGE ROUTES

- Numerous spills, releases, and illegal dumping of hazardous wastes were documented as occurring on-Site and in the KVK & Newark Bay.
- Sediment samples collected in the KVK near the Site contained hazardous substances matching those associated with the Site.
 - 1,2,4-Trichlorobenzene up to 9.23 ppm
 - 1,2-Dichlorobenzene up to 1.4 ppm
 - 1,4-Dichlorobenzene up to 0.738 ppm
 - Chlorobenzene up to 131 ppm
 - 4,4'-DDD up to 0.041 ppm
 - 4,4'-DDT up to 0.035 ppm
 - Aroclor PCBs below detection of 0.0336 ppm
 - Mercury up to 7.92 ppm

(BAH000152, BAH000153)

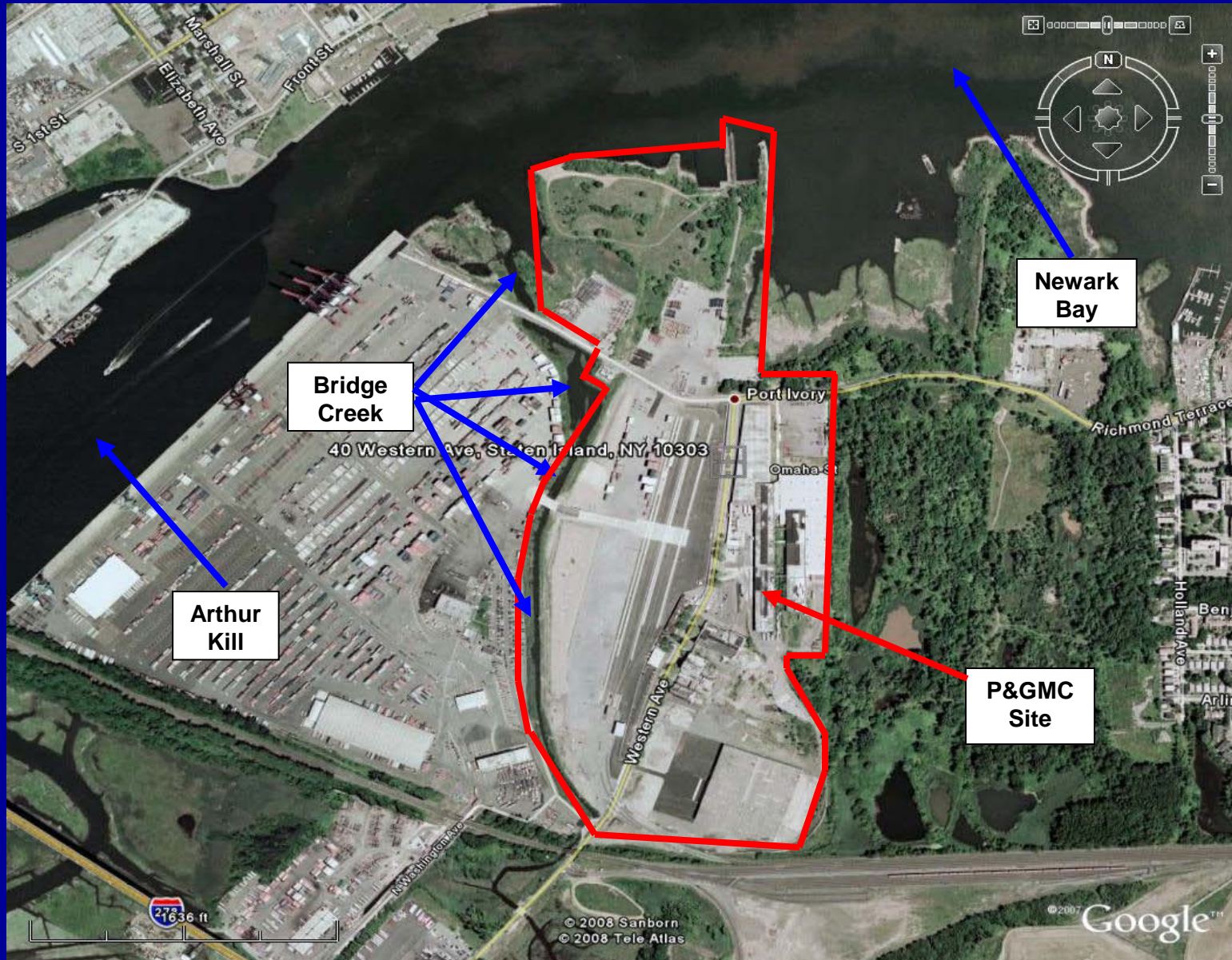
STANDARD TANK CLEANING - BAYONNE SITE

CANDIDATE PRPS

- 35 PRPs identified with specific hazardous substances at the Site include, among others:
 - Benjamin Moore & Co.
 - BP Products North America, Inc.
 - Chevron Corp.
 - Citgo Petroleum Corp.
 - Consolidated Edison, Inc.
 - Shell Oil Co.



PROCTER & GAMBLE – STATEN ISLAND SITE



PROCTER & GAMBLE – STATEN ISLAND SITE *BACKGROUND*

- The approximately 124-acre P&G, Port Ivory Plant was located on Newark Bay at its confluence with the Arthur Kill.
- P&G operated at the Site from 1907 until 1991 when it was closed.
- P&G manufactured soaps, detergents, shortenings, oils and prepared baking mixes at the Site.
- In 2000, the Site was acquired by PANYNJ for expansion of the neighboring Howland Hook Marine Terminal operations.

(BBB000006, BBG000002, BBL000001)

PROCTER & GAMBLE – STATEN ISLAND SITE

REGULATORY STATUS

- In April 2002, consultants for PANYNJ indicated that former remedial investigations reported environmental issues centering on Site soils/groundwater, USTs, and Bridge Creek, which runs along the western border of the Site.
- As part of the redevelopment of the Site, PANYNJ entered into the NYSDEC Voluntary Cleanup Program in August 2002.
- Of note, a NYSDEC Industrial Chemical Survey completed by P&G in 1986 indicated the facility was used to “formulate pesticides.”
- A 1975 Monsanto report to EPA indicated the P&G Port Ivory facility returned 700 lbs of Aroclor PCB waste to Monsanto in 1972.

PROCTER & GAMBLE – STATEN ISLAND SITE *CONTAMINATION*

The following hazardous substances were detected in Site soils and groundwater:

- Lindane up to 0.029 ppm (Class II Pesticide)
- Chlordane up to 4.5 ppm
- 4,4'-DDD up to 0.92 ppm
- 4,4'-DDT up to 0.36 ppm
- Aroclor PCB-1254 up to 6.6 ppm
- Aroclor PCB-1260 up to 1.5 ppm
- Arsenic up to 980 ppm
- Barium up to 790 ppm
- Chromium up to 270ppm
- Mercury up to 2.2 ppm

(BBL000001, BBL000002, BBL000006, BBI000013)

PROCTER & GAMBLE – STATEN ISLAND SITE

DISCHARGE ROUTES

- It is not known when the Site was tied into the City of NY sewer system; however, process wastewater discharges to Newark Bay/ Arthur Kill were documented as of the late 1960s.
- Sediment samples collected from Newark Bay at its confluence with Bridge Creek contained hazardous substances matching those associated with the P&G Site:
 - Arsenic up to 23.7 ppm
 - Barium up to 273 ppm
 - Chromium up to 140 ppm
 - Copper up to 278 ppm
 - Lead up to 207 ppm
 - Mercury up to 4.9 ppm
 - Nickel up to 48.1 ppm
 - Zinc up to 410 ppm

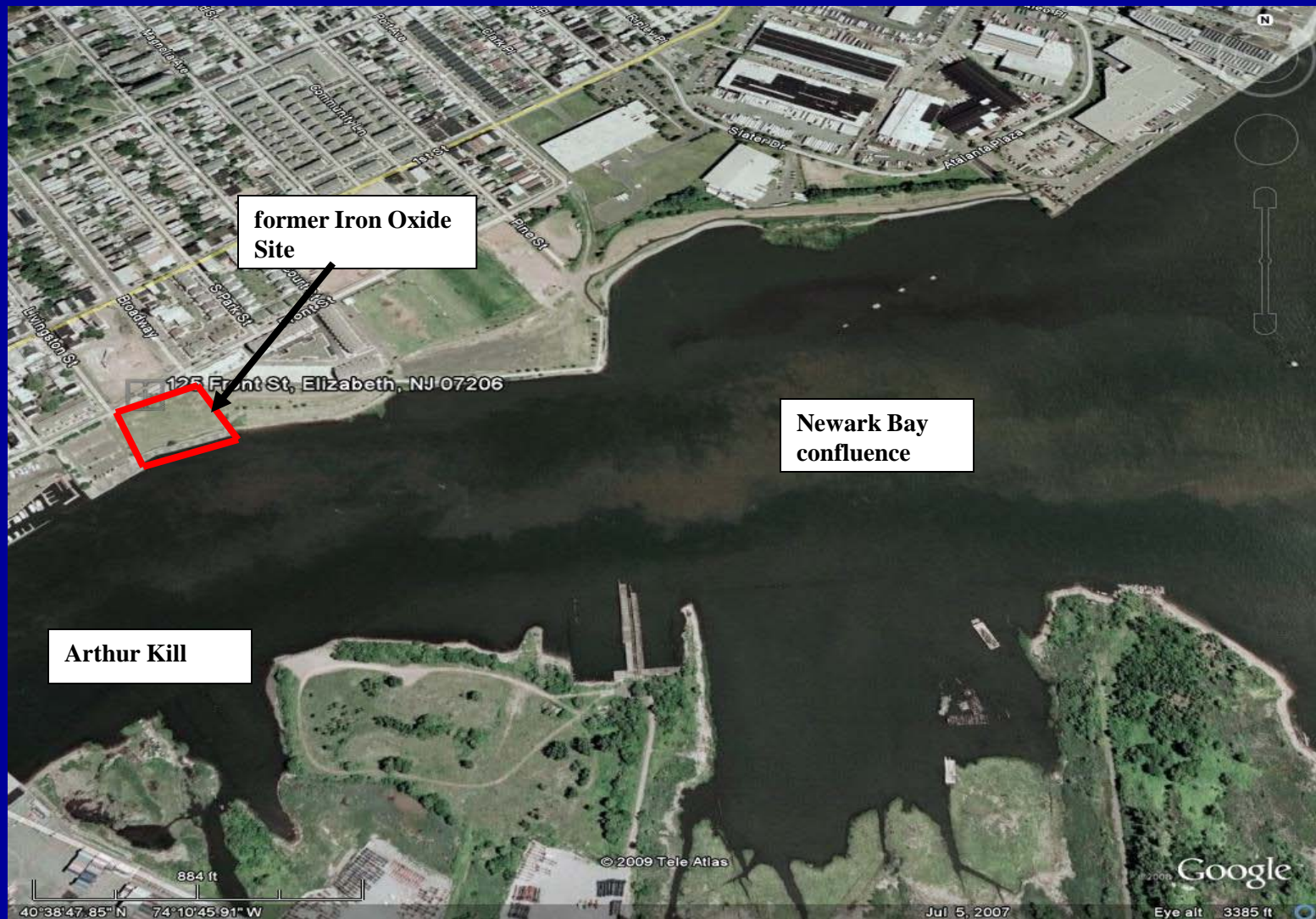
(BBE000008, BBN000006, BBN000007)

PROCTER & GAMBLE – STATEN ISLAND SITE

CANDIDATE PRPS

- The Procter & Gamble Manufacturing Company
- The Procter & Gamble Company

IRON OXIDE – ELIZABETH SITE



IRON OXIDE - ELIZABETH SITE

BACKGROUND

- The approximately 1.38-acre Site is bounded to the east and southeast by the Arthur Kill.
- Iron Oxide operated at the Site from 1949 until 1979, when NJDEP raided the Site and ordered it closed for illegally dumping millions of gallons of chemicals directly into the Arthur Kill.
- Iron Oxide stated that it manufactured iron oxide from spent pickle liquor, to which lime or caustic soda was added to neutralize and precipitate out the iron oxide in a thin sludge form.

(BAA000034, BAA000035, BAA000042, BAB000007)

IRON OXIDE - ELIZABETH SITE

REGULATORY STATUS

- In 1978, NJDEP discovered that Chemlime had reportedly hauled 6.4 million gallons of hazardous liquid to Iron Oxide during 1976. Due to the large amount of chemicals being received at the Site and the small amount of finished material being produced, NJDEP began investigating the Site further.
- In 1980, a NJ Grand Jury indicted Iron Oxide, Chemlime, and Perk Chemical (some officials & employees) for illegally dumping 40 million gallons of chemical wastes into the Arthur Kill between 1973 and 1979.

IRON OXIDE – ELIZABETH SITE *CONTAMINATION*

The following hazardous substances were detected in Site soils and groundwater:

- 1,2-Dichlorobenzene up to 98.9 ppm (Dioxin Precursor Chemical)
- 1,4-Dichlorobenzene up to 7 ppm (Dioxin Precursor Chemical)
- Chlorobenzene up to 395 ppm (Dioxin Precursor Chemical)
- Aroclor PCB-1248 up to 2.32 ppm
- Aroclor PCB-1254 up to 0.619 ppm
- Aroclor PCB-1260 up to 0.159 ppm
- 4,4'-DDD up to 0.0647 ppm
- 4,4'-DDT up to 0.0855 ppm
- bis(2-Ethylhexyl)phthalate up to 1.45 ppm
- Mercury up to 37.1 ppm

(BAA000042, BAB000024)

IRON OXIDE - ELIZABETH SITE

DISCHARGE ROUTES

- Documentation indicates that Iron Oxide illegally discharged millions of gallons of chemicals in the Arthur Kill, via a stormwater pipe connected to an on-Site catch basin, as well as, through hoses connected to on-Site tanks and directly from tanker trucks.

(BAA000014, BAA000034, BAA000039, BAA000042, BAG000001)

IRON OXIDE - ELIZABETH SITE

DISCHARGE ROUTES (CONT'D)

- Sediment Samples collected from the NBSA contained hazardous substances similar and/or identical to those found on-Site:
 - 1,2-Dichlorobenzene up to 1.4 ppm
 - 1,4-Dichlorobenzene up to 0.084 ppm
 - Chlorobenzene up to 0.028 ppm
 - Aroclor PCB-1248 up to 0.37 ppm
 - Aroclor PCB-1254 up to 0.31 ppm
 - Aroclor PCB-1260 up to 0.33 ppm
 - 4,4'-DDD up to 0.18 ppm
 - 4,4'-DDT up to 0.59 ppm
 - bis(2-Ethylhexyl)phthalate up to 8.8 ppm
 - Mercury up to 17.2 ppm

(BAB000053, BAB000054)

IRON OXIDE - ELIZABETH SITE

CANDIDATE PRPS

Iron Oxide is known to have accepted wastes from the following entities:

- Carpenter Technology Corporation
- Clariant Corp. (successor to Sandoz Colors & Chemicals)
- Cycle Chem, Inc. (successor to Perk Chemical Co., Inc.)
- ECD, Inc.
- IBM Corporation
- ICI Americas, Inc.
- National Standard Company
- Panichi Holding Corp. (d/b/a Royal Carting Co.)
- Swepeco Tube Corporation

PUREPAC PHARMACEUTICAL – ELIZABETH SITE



200 Elmora Avenue, Elizabeth, New Jersey

SITE OUTLINE IS AN APPROXIMATION

PUREPAC PHARMACEUTICAL - ELIZABETH SITE *BACKGROUND*

- The Purepac Site comprises 10 acres in Elizabeth, NJ.
- The Site is located approximately 0.8 miles west of the Elizabeth River.
- Purepac began generic pharmaceutical manufacturing at the Site in 1957.
- The Site was sold to Alpharma Inc. in 2001 and Actavis hf in 2005
- Operations presently continue as Actavis Elizabeth LLC.

(BAD000070, BAD000072, BBA000003, BBA000009)

PUREPAC PHARMACEUTICAL - ELIZABETH SITE

BACKGROUND (CONT'D)

- Hazardous substances and materials formulated, utilized, handled or disposed at the Site include:
 - Alcohols
 - Acetone
 - Butyl Amine
 - Carbon Tetrachloride
 - Chloroform
 - 1,2-Dichloroethane
 - Mercury Compounds
 - MEK
 - Methylene Chloride
 - Nitrobenzene
 - Phenol
 - Toluene
 - Tetrahydrofuran
 - Trichloroethylene

(BAD000072)

PUREPAC PHARMACEUTICALS - ELIZABETH SITE *REGULATORY STATUS*

- In 2001, Alpharma performed a site investigation to evaluate the extent of soil and groundwater contamination at the Site.
- In 2005, Alpharma entered into a Memorandum of Agreement with NJDEP to retain responsibility for remedial activities at the Site after it was sold to Actavis.
- In February 2006, the facility entered into a Settlement Agreement with JMEUC and paid a civil penalty of \$420,000 for 90 separate notices of violation issued between July 2000 and October 2005.
- As of March 2006, the facility was still in significant noncompliance for acetone & pH and was assessed penalties of \$25,000 by JMEUC.

(BAA000414, BAA000443, BAA000453, BAD000029, BAD000070, BAD000072)

PUREPAC PHARMACEUTICAL - ELIZABETH SITE

DISCHARGE ROUTES

- Prior to 1998, all process wastewaters from the Site were discharged, untreated, to the City's combined sewer system, which is subject to overflows to the Elizabeth River during bypassing events at the JMEUC treatment plant (Elizabeth CSO Outfall No. 008).
- Wastewater effluent samples regularly exceeded JMEUC permit limits for Copper, Zinc, pH and Oil & Grease.
- Sediment sampling conducted in 2007 in the Elizabeth River downstream of the Site and its CSO discharge location identified Copper up to 332 ppm and zinc up to 826 ppm.

PUREPAC PHARMACEUTICAL - ELIZABETH SITE

CANDIDATE PRPS

- Alpha Pharma Inc., as successor to Purepac (f/k/a Kalipharma, Inc.)
- Actavis Elizabeth LLC, as successor to ongoing pharmaceutical business at Site